

IOWA BIRD LIFE

PUBLISHED QUARTERLY BY THE
IOWA ORNITHOLOGISTS' UNION

VOL. IX

JUNE, 1939

NO. 2



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The Iowa Ornithologists' Union was organized at Ames, Iowa, February 28, 1923, for the study and protection of native birds and to promote fraternal relations among Iowa bird students.

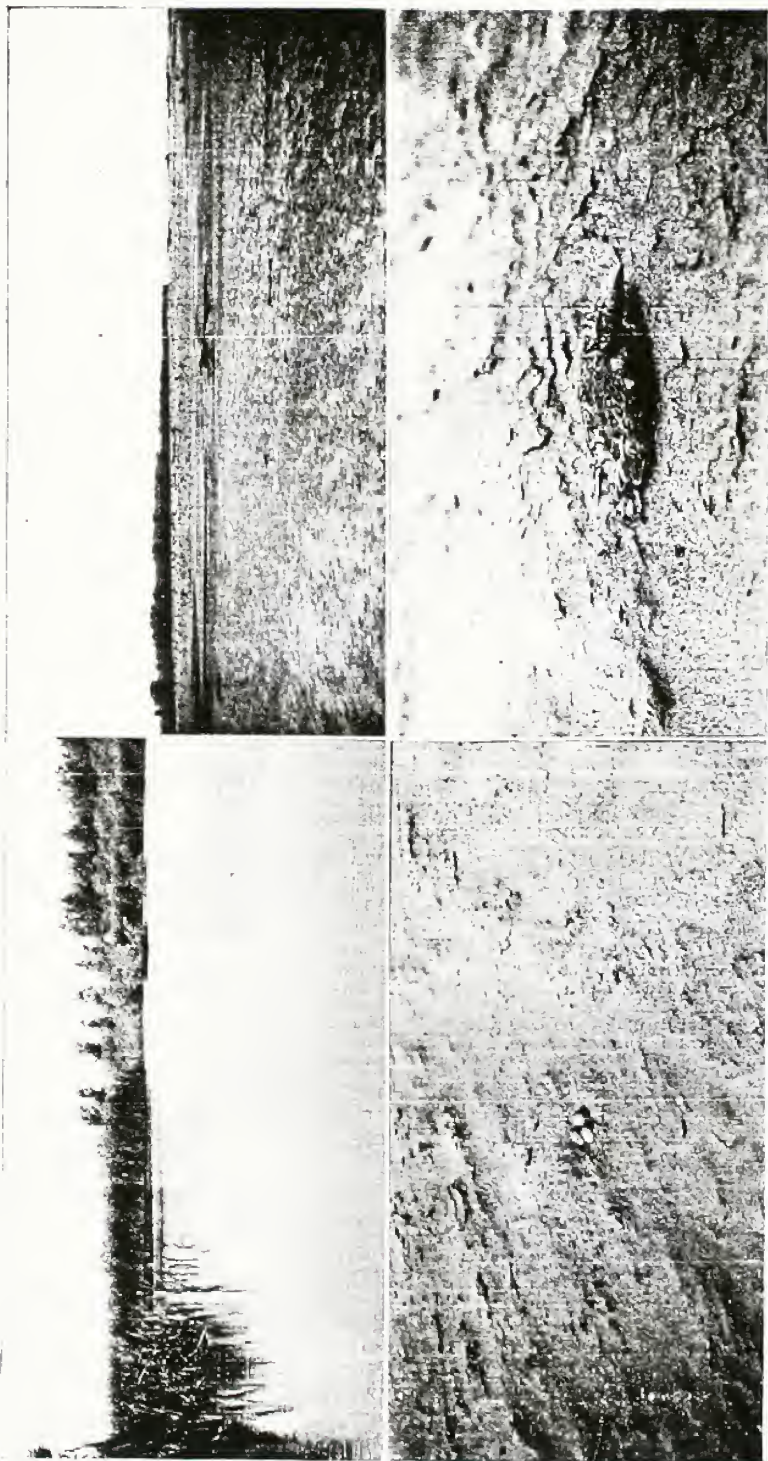
The central design of the Union's official seal is the Eastern Goldfinch, designated State Bird of Iowa in 1933.

Publications of the Union: Mimeographed letters, 1923-1928; 'The Bulletin,' 1929-1930; 'Iowa Bird Life,' beginning 1931.

SUBSCRIPTION RATES: In Iowa, \$1.00 a year (includes membership dues). Outside of Iowa, 50c a year. Special rate for all libraries, 50c a year. Single copies 15c each. (Keep the Editor informed of your correct address.)

EDITORIAL AND PUBLICATION OFFICE
WINTHROP, IOWA

Entered as second-class matter February 9, 1932, at the post office at Winthrop, Iowa, under the Act of March 3, 1879.



LEAST TERN NESTING HABITAT

Figure 1, upper left, shows New Lake in August, 1937. In Figure 2, upper right, a typical sandbar nesting site along the Missouri River is shown. Part of a flock of 5000 Bank Swallows is seen in the photograph, which was taken on August 29, 1937. The Eggs of the Least Tern in Figure 3, lower left, were photographed on August 8, 1937. The Young Least Tern in Figure 4, lower right, was photographed on August 29, 1937. All photographs were taken in Woodbury County, Iowa, by Bruce F. Sibley.

THE LEAST TERN IN IOWA

By BRUCE F. STILES

State Conservation Officer
Council Bluffs, Iowa

In the 'Wilson Bulletin' for March, 1938, there appeared a note by the writer on the nesting of the Least Tern (*Sterna antillarum antillarum*) in Iowa. During 1937, a total of 14 nests, 29 eggs and two fledglings were found on the sand-bars of the Missouri River. Most of these were found while I was with Dr. T. C. Stephens and W. W. Trusell. During 1938, 14 nests, 28 eggs and 15 fledglings were found. The Least Tern is considered rare in Iowa and listed by DuMont as "breeding formerly". In view of these facts, the following notes may prove of interest.

In its northern migration the Least Tern arrives in northwestern Iowa about the last week in May. Mating takes place shortly after their arrival and thereafter they are usually seen feeding in pairs. They feed along the Missouri River and on the ox-bow lakes which are common in this locality. As the Missouri River reaches its highest state during June and is very roily at that time, most of the early feeding is done on the lakes. Figure 1 shows New Lake, typical of the ox-bow lake feeding and breeding habitat. It is usually about the first of August before the river has receded sufficiently to expose the sand-bars and islands which form their nesting grounds. Their activities are gradually transferred to the river as it recedes. Nidification starts the last week in July and lasts throughout August. The young are not all a-wing until the first week in September. They nest in small colonies of ten or a dozen, but the nests are not close together, often as much as 50 yards separating the nests.

Copulation takes place as soon as they are paired and continues through June and July. The male diving for a small fish carries it aloft in his bill to a height of 20 or 30 feet. He then circles the pond, uttering a shrill cry rapidly repeated that sounds to me like "gleek-gleek-gleek". The female flies rapidly to the male, coming over his head, and, taking a position directly in front of him and turning her head from side to side, flies in this position for a short distance. She then plummets to the water, followed closely by the male. This action is done in perfect unison, with the birds not more than a foot apart. As they alight the female turns and takes the fish. The male is almost on the back of the female as they alight and copulation takes place instantly and lasts but a few seconds. The entire action takes place so rapidly and the birds are so close together, I have thought the female took the fish before they touched the water on some occasions. Sometimes I have seen the male, after catching a fish, fly excitedly around the pond and call repeatedly with no response from the female. On these occasions he swallowed the fish and resumed his hunting. On at least one occasion I saw the same performance except that the birds did not copulate.

The flood stage of the Missouri at Sioux City is 19 feet. Sand-bars start to appear when the stage reaches about 8 feet. The maximum stage of the Missouri River for 1937 was reached on June 21, when it stood at 11.8 feet. The minimum was 1.6 feet, reached on September 23. The maximum for 1938 was reached during a spring freshet. This was a stage of 13.2 on March 24. On June 28 the river stood at 11.5 feet, but the maximum summer rise was not reached until July 8, when it stood at 12.7 feet.

Here is a table showing the river stage, together with the high and low temperature on four of our river trips,

	High temp.	Low temp.	River stage
July 25, 1937	79	59	8.4
August 29, 1937	92	72	2.9
August 7, 1938	91	68	7.2
August 14, 1938	93	80	5.5

The Missouri River in June averages about three-fourths of a mile in width, and as the water recedes in the late summer it is divided into several small courses by barren wastes of dry white sand with an occasional weathered snag or bit of debris. This nesting habitat is shown in Figure 2. These bars are from a few yards in area to 100 acres or more. The bars chosen by the Least Tern are usually of good size and dry. At the time of nesting the southern migration of many shore birds is well under way and combined with the summer residents, the locality is well populated. Greater and Lesser Yellow-legs, Solitary Sandpipers, Least Sandpipers, Baird's Sandpipers, and Killdeer are common. The migration of swallows is at its height, and flocks containing several thousand specimens of Bank Swallows, Cliff Swallows and others are in constant attendance. The Black Terns are here in their fall plumage at this time, although they are not nearly so numerous as the Least Terns. Crows are common on the bars, but they have not yet started to congregate in their fall flocks. The Great Blue Heron feeds on the bars at this season.

The eggs of the Least Tern are laid on the bare sand. Often they are in a slight depression which suggests that the birds make some attempt at nest-building. This, however, I do not believe to be the case. Strong winds frequently blow across the sand-bars on which the eggs are laid. During these windstorms the dry sand soon drifts in around the eggs. In some instances they are completely covered. After the storm the birds scoop the sand out from around the eggs; this leaves them in a depression, thus giving them the appearance of having been laid in a sort of nest. Figure 3 shows three eggs in a slight depression.

The usual clutch of eggs is three, although many nests had only two and some but one. That these nests with two and one eggs were at least in some instances completed clutches, was evident by the fact that on two occasions I broke open single eggs and found that incubation was almost completed. In one case where there was only one egg it was found to be nearly half covered with sand. A previous rain had caused large chunks of wet sand to adhere to it so that it had the appearance of an abandoned nest. The egg was opened and the fetus was found to be alive. It appeared to be about ready to emerge from the shell. At no time did I see a bird incubating the eggs. It may be that this job is left, at least partially, to the hot rays of the sun. The sand here becomes so hot that it is uncomfortable to the bare hand and the heat remains well into the night. Temperatures at this time of year frequently go well above 100° Fahrenheit in this locality, and the August average is 72.5.

The chicks when hatched are covered with a yellowish natal down, with a few darker spots which are more abundant around the head. This turns to more of a gray as the bird grows older, and the spotted effect becomes more pronounced. The newly-hatched chicks are quite altricial and do not stir from the nest for a time. In a number of instances I have found an egg and a newly-hatched chick together, which is the only way one can tell that the chick did not leave the place it was hatched since the nest is poorly defined.

The downy chicks shortly after hatching are from two and one-fourth to two and one-half inches long. At one week old they are about three and one-half inches long and postnatal molt has begun. The tiny young when first hatched do not try to conceal themselves and will peep plaintively when approached. Slightly larger chicks would "freeze" only when approached at very close range. At a week of age the chick is



ON A RIVER TRIP

W. W. Trussell (left) and Dr. T. C. Stephens, photographed by Bruce F. Stiles.

a past master at the art of camouflage and when lying perfectly motionless in a depression in the sand or a crack in the baked mud, represents an almost perfect example of protective coloration. A chick observed by the writer on August 29, 1937, was timed and though handled and photographed a dozen times, lay perfectly motionless for an hour and forty minutes. At the end of this time I was holding it in my hand and it jumped to the ground and ran. It ran for over a hundred yards and was finally lost to sight over a hummock of sand. This chick is shown in Figure 4.

On a windy day when a veritable sandstorm was in progress, I came upon a number of very young chicks. In two instances when I placed my hand in front of the chick it immediately climbed into my hand and cuddled down in my palm out of the storm. Slightly older chicks would not move a muscle under the same circumstances.

During all the experiences with both nests and young, the old birds continually scolded from overhead and would often swoop down to within a few inches of my helmet. The call of alarm at this time sounded to me like "zweek, zweek, zweek, zweek", uttered quite rapidly and repeated about four times. When the birds swooped down very close they made a noise that sounded like "click, click." Their most common call when fishing undisturbed was a single call of "gueek," sometimes repeated. There was another call which the old birds used when they were some distance from us. This sounded like a domestic hen calling her chicks.

Their southern migration takes place during the early part of September.

From the foregoing observations it would seem that the date of nesting is determined by the river, as nesting does not take place until the river has receded sufficiently to expose suitable sand-bars. It seems odd that mating and copulation should take place so long before the first eggs are laid, but this may be accounted for by the circumstances that make their nesting habitat unavailable for so long a period after their arrival in the spring.

Irrespective of the status of the Least Tern in this area in the past, it can now be listed as a common summer breeder without question.

BIRD NEST ECOLOGY IN CENTRAL IOWA

By EMMETT POLDERBOER

The month of June, from an ecological standpoint, is a vital period in the lives of song birds in Iowa. An investigation on nesting birds in the Northwoods on Iowa State College property, Ames, Iowa, revealed some interesting data on selection of nest sites, bird-plant relations and biotic relations among the birds on the area in 1938. These studies were carried on under the direction of Dr. George O. Hendrickson.

The Northwoods is a 30-acre tract of virgin forest composed, for the most part, of upland oak-hickory association and flood-plain maple-linden association. An associes of shrubs borders the northern edge of the woods and extends into the woods to some extent. A small stream, Clear Creek, passes diagonally through the woods from southwest to northeast, leaving a flood plain 250 feet wide in some places.

Nesting pairs of birds were censused by location of singing males, females carrying food to young, and by direct search for visible nests containing eggs and young. Parasitic Cowbirds were censused by taking the average number of females seen over a period of ten days. The number of birds nesting, feeding young or acting as parasites from June 15 to 25 was found to number 11, 16 and 6 respectively. Singing males whose mates and nests could not be located numbered 10, thus making a possible total of 43 nesting pairs, representing 22 species.

Nesting pairs of birds found nesting on the area are as follows: Cooper's Hawk (1), Mourning Dove (3), Western House Wren (6), Rose-breasted Grosbeak (2), Brown Thrasher (2), Northern Flicker (1), Eastern Cardinal (3), Black-capped Chickadee (2), Red-eyed Towhee (3), Catbird (2), Eastern Chipping Sparrow (1), Ruby-throated Hummingbird (1), Wood Thrush (3), Red-bellied Woodpecker (1), Red-headed Woodpecker (1), Northern Crested Flycatcher (2), Eastern Phoebe (1), Eastern Wood Pewee (1), Red-eyed Vireo (1), Northern Downy Woodpecker (2), and Cowbird (6 females).

It is of interest to note that all these nesting birds, with the exception of the Cooper's Hawk nested in the maple-linden or the shrub areas. Some of the birds not nesting in the oak-hickory association were observed to feed within the limits of this area, though with caution. The apparent reason for this caution was the presence of the hawks. Danger from hawk predation was increased when three downy young Cooper's Hawks hatched on June 17, a late date for a hatch of this species. Hence most of our song birds were hatching just at a time when the normally hatched hawk families should have been well grown. With this point in mind it is conceivable that most of the small birds present in the Northwoods had adequate reason to leave nearly a third of its area virtually deserted as far as nesting and feeding were concerned.

Occasionally, as the author passed through the woods, an adult Cooper's Hawk would flush from a tree, uttering a sharp "kak-kak-kak" which was followed by a cessation of songbird activity in that section of the woodland. At the utterance of these notes, on several occasions, Chickadees were observed to remain perfectly motionless as though struck with fear; some others were seen to settle into nearby hazel thickets until the hawk had left the immediate vicinity.

Since this investigation dealt with nest census the author did not check on the foods eaten by the hawks. Such an investigation would have, undoubtedly, yielded some valuable data on song bird mortality, especially among juvenile song birds leaving the nests that had been under observation.

From the foregoing observations it should not be inferred that the presence of the hawks alone limited the nesting territory of the song birds, since Kendeigh (1934) demonstrated that vegetation, humidity,

temperature, and food play an important part in affecting the nest location of birds. Foods used by many of the birds in the maple-linden area were measuring worms, flies and some bugs; these perhaps may have been more palatable or more abundant than those forms of insects found in the more open oak-hickory woods. In relation to humidity and temperature, Aikman and Smelser (1938) found that the maple-linden association had the highest humidity and the least temperature variation; whereas the shrub area had the least percentage of humidity and the greatest range of temperature change. From these data it can be readily seen that some birds sensitive to change of temperature should benefit by nesting in the maple-linden area. As for foliage and density of vegetation, in small areas, the shrub type possessed these qualifications. The oak-hickory had some of the good qualities of both other woodland types inasmuch as some shrub patches were present to produce dense foliage, and the temperature and humidity varied less than in the shrub area. In other similar wooded areas some birds are often found using oak-hickory woods to a marked degree for nesting. It is very probable that the oak-hickory association did not offer as much attraction as the other two areas did and the added menace of a Cooper's Hawk family tended to act as a final deciding factor on the attractiveness of the oak-hickory area as a nesting ground for song birds. Had the hawks not been present, it is entirely possible that the Northwoods might have been utilized by at least three or four nesting pairs of song birds in addition to those that were present on the area.

In the maple-linden area the relatively dense population of nesting birds showed some interesting biotic reactions. The male Cardinals were apparently very jealous of their nesting territory, and the author frequently had occasion to observe several bouts of feather-picking and chases when some unsuspecting woodpecker or Catbird encroached on father Cardinal's domain. Cardinals and Crested Flycatchers quarreled among themselves even more than they did with others.

After reading Kendeigh's account of the interactions of Eastern House Wrens, it was interesting to note that three Western House Wren families were concentrated within a radius of three rods of one another and seemingly were neighboring peaceably.

Another interaction worthy of note was the parasitism of nests by Cowbirds. Nearly every nest of ground- and shrub-nesting birds was parasitized. Those species suffering parasitism were Towhees, Cardinals, Wood Thrushes, Brown Thrashers, and Catbirds. Towhees and Catbirds were parasitized to the greatest extent. The only aggression on the part of host birds toward the Cowbird was restricted to the Cardinals as nearly as could be determined by observation.

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THE SPIRIT LAKE CONVENTION

By KATE E. LA MAR

Sec'y-Treasurer, Iowa Ornithologists' Union

The seventeenth annual meeting of the Iowa Ornithologists' Union was called to order in the high school auditorium, Spirit Lake, Iowa, on Friday morning, May 12, 1939. An address of welcome was given by W. B. Bedell, president of the Spirit Lake Commercial Club, to which Judge O. S. Thomas responded.

The morning program was opened by C. W. Price of Spirit Lake. He spoke on birds of the Iowa Great Lakes region in the earlier days, and mentioned many birds he remembered seeing when a lad on the farm—Passenger Pigeon, Sandhill Crane, Long-billed Curlew, Golden and Upland Plovers, Canada Goose, Loon, Cormorant, and others which were abundant 50 years ago and are scarce or extinct now. Dr. Mary Roberts followed his talk with a description of the birds to be seen on a field trip in the same region at the present time.

Dr. George Hendrickson of Iowa State College talked on Quail management in Iowa, and reported that farmers were helping very materially in the work of feeding and furnishing shelter for Quail. M. F. Baker followed Dr. Hendrickson with a paper on "Prairie Chickens in Southeast Iowa," describing fields and areas on which the birds were found, with studies of their general habits. Slides were used to illustrate this talk. The range of Prairie Chickens is limited, and agricultural practices can play a destructive or constructive part in the future of the bird.

Jessop B. Low, Iowa State College, gave a paper on "Diving Ducks of Northwest Iowa," a study of Redheads and Ruddy Ducks which nested over water in dense vegetation. Of 64 nests observed, 42 were Redhead and 22 were Ruddy Duck. The Redheads nested in large scirpus, while the Ruddy nested in small carex. Predators, instability of water-level, desertion of nests and infertile eggs were the chief causes of loss of nests. Emmett Polderboer gave a paper on "Ruffed Grouse in Northeast Iowa," in which he described his observations in the last six years. Molting birds were found in jewel-weed cover; in some areas the birds preferred sandstone and limestone bluffs; in winter hilltops with oak and hickory woods about 20 feet high make desirable haunts.

The afternoon session, also in the high school auditorium, began with the showing of two very excellent moving picture reels on the methods of trapping and banding birds, by J. F. Thompson of the Biological Survey. Any groups not familiar with the work of banding would do well to write the Bureau and get these reels for showing.

The topic, "Spring and Fall Plumage of Our Common Waterfowl," was discussed and illustrated with skins, by Jack Musgrove. A marked difference was noted in species of Snovellers, Baldpates, Pintail, Green-winged and Blue-winged Teal. A very interesting discussion of "Recent Advances in Experimental Ornithology" was given by Dr. W. N. Keck of Coe College, Cedar Rapids. Dr. Keck thought one should study anatomical, functional and physiological phases. He spoke of experimental work done on color changes, migration, feathering, and other physiological developments. Walter Rosen read a paper on his observations of the Great Horned Owl. He has been observing the nests of these birds for six years, in an area 8½ miles south of Ogden.

The activities of the various bird clubs in Iowa were described briefly by representatives from the clubs of Atlantic, Cedar Falls, Cedar Rapids, Des Moines, Dubuque, Sioux City and Spirit Lake. The Roundtable discussion proved to be quite lengthy and very interesting, and a number of persons took part in describing the nesting or migration of these birds in respective parts of the state: Swamp Sparrow, Clay-colored Sparrow, Lark Sparrow, Savannah Sparrow, Pine Siskin, Cardinal, Bluebird, and Eastern Meadowlark.

The business meeting followed the afternoon program. The reading of the minutes of the last meeting was omitted. The Secretary-Treasurer's report was read and accepted, and this officer was given a vote of thanks, as was the Editor, also. The Nominating Committee, composed of Messrs. Stiles, Wolden and Graesing, submitted a list of officers (as given on the title page of this issue) who were elected. Invitations for the 1940 convention of the Union, from Dubuque, Sioux City and another for a joint convention with the Nebraska Ornithologists' Union, were read and discussed at length, with Dubuque, whose invitation had also been given in 1938, being finally chosen. The ques-

tion of days for the meeting was brought up but the decision was left for a later date.

The Secretary-Treasurer called attention to the fact that the shooting season on Wood Ducks would soon be open for sportsmen. A motion made later read: "Moved, that we recommend to the U. S. Biological Survey and the Secretary of Agriculture that a closed season on Wood Ducks be provided unless it be first determined from actual facts that there is a shootable surplus of sufficient size to merit the open season." A letter voicing this opinion of the Union was written and sent to the Biological Survey by the Secretary-Treasurer under date of May 20, 1939.

The Friday evening banquet was held in the Antlers Hotel with 83 persons present. Singing was led by R. F. Doudna. The former presidents of the Union who were present were introduced and short speeches were made on the growth of the organization since 1923. The speaker of the evening, Walter W. Bennett, former president of the Union, was introduced by Judge Thomas. Mr. Bennett spoke on "Mountain Bird Life" and illustrated his very interesting talk with slides and moving pictures of bird and plant life.

After the Saturday field trip, a luncheon was held at Gull Point, and a most satisfying lunch it was. The bird list was compiled and various matters were discussed. It was moved and seconded that the Secretary write a note of sympathy to Miss Winifred Gilbert concerning the recent death of her brother and to regret her inability to attend the meeting. Cards signed by several members were sent to her.

Attendance Register.—AMES, Maurice F. Baker, Dr. and Mrs. G. O. Hendrickson, Emmett Polderboer; ARNOLDS PARK, Mr. and Mrs. A. F. Becker, Mr. and Mrs. C. P. Benit, Mr. and Mrs. Fred Bennett, F. W. Davis, Hattie Elston, Mrs. F. E. and Mabel Henderson, Annette Libby, Mr. Townsend, Dr. Ward; CEDAR FALLS, Dr. Martin Grant; CEDAR RAPIDS, Mrs. C. C. Flodin, Dr. W. N. Keck, Mr. and Mrs. E. J. Petranek, Lillian Serbousek; COUNCIL BLUFFS, Bruce Stiles; DES MOINES, Kate LaMar, Jack Musgrove, J. F. Thompson; DUBUQUE, Ethan Hemsley, Henry Hermann, Mr. and Mrs. R. W. Johnson, Margaret Kohlman, Mary Young; ESTHERVILLE, Elizabeth Colt, Drs. G. G. and Sarah Griffith, Golda Harper, Helen Miller, Mrs. J. B. Osher, Jeannette Watson, Mr. and Mrs. B. O. Wolden; FLORIS, Ivan Boyd; IOWA CITY, Malcolm McDonald; OGDEN, Mr. and Mrs. W. M. Rosen, Mary Sturtz; ORLEANS, Mrs. A. T. Stephens; POMEROY, Mr. and Mrs. M. L. Jones; ROCK RAPIDS, Mr. and Mrs. O. S. Thomas; RUTHVEN, Mr. and Mrs. J. B. Low; SIOUX CITY, Mrs. Mary Bailey, Karl Kenmann, Dr. and Mrs. T. C. Stephens, Mr. and Mrs. Wm. Youngworth; SPIRIT LAKE, Deloras Baker, W. B. Bedell, L. K. Bennett, Rev. and Mrs. G. F. Butler, Mr. and Mrs. R. S. Carlton, Mrs. Bernard Carver, Mrs. Mabel Chaffee, Rev. R. H. Cox, Mr. and Mrs. Ralph Doudna, Hazel Drake, Mr. Fulton, Mr. and Mrs. Gollinghorst, Phyllis Grainge, Mr. and Mrs. Howard Graesing, J. H. Holek, Grace Kettleson, Mr. and Mrs. B. A. LaDoux, Mr. and Mrs. C. C. LaDoux, Hertha Madsen, Mrs. Stella Macdonald, Rachel McQuirk, Mr. and Mrs. Lawrence Messinger, Mrs. W. M. Moreland, Mr. and Mrs. H. E. Narey, Karleen and Laura Olson, Mr. and Mrs. C. W. Price, Dr. and Mrs. F. L. R. Roberts, Mr. and Mrs. R. W. Raebel, Mr. and Mrs. Lee Smith, Mrs. Lydia Snow, Dr. Ruth Wolcott; SPRINGDALE, Mary E. Roberts; SUMNER, Margaret Murley; WATERLOO, Lucile and Myra Loban, Wanda Wilham; WEST DES MOINES, Mr. and Mrs. W. A. Kinnaird; LOS ANGELES, CALIF., Walter W. Bennett. Total registered, 113.

Birds Seen on the Field Trip.—Spirit Lake region, Dickinson County, Iowa; May 13, 5:30 a. m. to 12:30 p. m. Clear and calm; temp. 60°.

Pied-billed Grebe, Great Blue, Green and Black-crowned Night Herons, Am. Bittern, Mallard, Gadwall, Baldpate, Pintail, Blue-winged Teal, Shoveller, Redhead, Scaup, Ruddy Duck, Cooper's, Marsh and

Sparrow Hawks, Ring-necked Pheasant, Hungarian Partridge, King and Sora Rails, Am. Coot, Semipalmated, Black-bellied and Upland Plovers, Killdeer, Wilson's Snipe, Spotted, Solitary, Pectoral, Baird's, Least, Stilt and Semipalmated Sandpipers, Greater and Lesser Yellow-legs, Hudsonian Godwit, Northern Phalarope, Herring, King-billed and Franklin's Gulls, Forster's, Common and Black Terns, Mourning Dove, Yellow-billed Cuckoo, Chimney Swift, Ruby-thr. Hummingbird, Belted Kingfisher, Flicker, Yellow-bellied Sapsucker, Red-headed, Hairy and Downy Woodpeckers, Eastern and Arkansas Kingbirds, Phoebe, Crested and Least Flycatchers, Tree, Bank, Rough-winged, Barn and Cliff Swallows, Purple Martin, Blue Jay, Crow, Chickadee, White-breasted Nuthatch, House and Prairie Marsh Wrens, Catbird, Brown Thrasher, Robin, Wood, Olive-backed, Gray-cheeked and Willow Thrushes, Bluebird, Ruby-crowned Kinglet, Migrant Shrike, Starling, Yellow-throated, Red-eyed and Warbling Vireos, Black and White, Tenn., Orange-crowned, Nashville, Parula, Yellow, Magnolia, Myrtle, Chestnut-sided, Black-poll, Palm and Wilson's Warblers, Grinnell's and Louisiana Water-thrushes, Northern Yellow-throat, Redstart, Bobolink, Western Meadowlark, Yellow-headed and Red-winged Blackbirds, Baltimore Oriole, Bronzed Grackle, Cowbird, Scarlet Tanager, Rose-breasted Grosbeak, Indigo Bunting, Dickcissel, Goldfinch, Red-eyed Towhee, English, Savanna, Grasshopper, Vesper, Chipping, Clay-colored, Field, Harris's, White-crowned, Gambel's, White-throated, Lincoln's, Swamp and Song Sparrows. Total, 123 species.

GENERAL NOTES

Northern Pileated Woodpecker in Butler County.—On February 25, 1939, I saw a Pileated Woodpecker near Finchford, about one-half mile west of the Black Hawk-Butler County line. It was in a timber of white elm, silver maple, bur oak and basswood, and as far as I could learn from people in the neighborhood, it had been noticed several times over a period of two weeks. DuMont (1933) does not give a record of this bird for Butler County, so I believe this is worth recording.—EMMETT B. POLDERBOER, New Hartford, Iowa.

Red-eyed Towhee Winters in Emmet County.—F. H. Davis of the State Conservation Commission reports seeing a male Red-eyed Towhee several times during the winter of 1938-39 on the shore of Ryan Lake in central Emmet County, southeast of Estherville. The bird was usually seen in a plum thicket on the north shore of the lake, sheltered from north winds by a high bank. Weeds near by, principally marsh elders and ragweed, furnished an abundance of weed seeds. A field of soy beans left for pheasants and other game birds was not far away, but the Towhee was never seen in this field. The bird was seen by Mr. Davis on December 20, January 7 and 20, February 9 and 27, and March 1.—MARY PRICE ROBERTS, Ph.D., Spirit Lake, Iowa.

Mockingbird in Winter at Sioux City.—When driving through Grand View Park on February 12, 1939, I saw what at first sight appeared to be a Catbird. The bird, which was feeding on Russian olives, was very dark, and it was not until it flew, and I saw the light wing bars and outer tail feathers, that I realized it was a Mockingbird. It remained in the same clump of trees until I could bring my friend, Mrs. W. J. Armour, to verify my identification. It was seen again on February 14 and March 10, by six different bird students. On February 10 the temperature registered 12 below zero, but by having a food supply the Mockingbird had been able to withstand the changes in winter weather in northwest Iowa.—MRS. MARIE DALES, Sioux City, Iowa.

A Mockingbird Winters at Atlantic.—While a pair of Mockingbirds have nested a few miles from Atlantic during two previous summers, it was not until the past winter that we have had the bird as a winter resident. The bird was first recorded on December 11, 1938, by Mr. and Mrs. Glenn Jones. Later it was seen by other members of the Atlantic Bird Club. On February 11, 1939, the Mockingbird was at my feeding-station which is on a south dining-room window. Snow was five inches deep on this date. The bird was weak and seemed almost unable to swallow. We felt sure it would not survive the period of deep snow. Yet it did, for I spent an hour or more watching it feeding in the yard of our club president, Miss Alma Beckwith, on February 19, and it was back at my window station on March 6. It looked hale and hearty on this occasion. During a warm spell shortly before this it was heard singing at night.

Other unusual winter residents have been a pair of Robins, a Bronzed Grackle, and a Red-headed Woodpecker in Mrs. Arthur Lee's garden. The unusually mild winter explains the presence of these birds.—MRS. BILLY WILLIAMS, Atlantic, Iowa.

Mockingbird in Winter at Fairfield.—Members of the Fairfield Bird Club were much interested in a Mockingbird that fed quite regularly at some of the feeding-boards in the eastern part of Fairfield. Mrs. A. E. Labagh first observed it on January 29, 1939. She notified others, including the author, who succeeded in getting a good view of the bird through his field glass. The bird had the white markings of a Mockingbird in tail and wings, but its other parts were so dark that in a general way it appeared to be more like the book illustrations and descriptions of the Townsend's Solitaire. The Solitaire, however, has a white eye-ring which was not discernible in this bird; and then it is only on the hypothetical list for Iowa.

The questioning as to the identity of the bird created a desire to capture it, and on March 2 Prof. Grover C. Hawk of Parsons College succeeded in trapping the bird. It was kept under observation for a few days and was measured and critically examined by Prof. Hawk, Prof. Charles Carter and the author. All three were unanimous in pronouncing it a Mockingbird. The measurements were close to the minimum given for Mockingbirds. The bird was dark slate-colored or blackish all over with the exception of white on the outer tail feathers, white wing-patch and two brownish-gray wing-bars. The concealed parts of the feathers on the bird's underparts were lighter in color than the tips, indicating that with wear the underparts might become lighter in color. Why this bird was so dark was an enigma.

Mockingbirds were known to be in Jefferson County 35 to 40 years ago and then disappeared and were not observed again until 1934. A few have been seen each year since in different parts of the county, but this is the first record of one having wintered here. The bird was photographed by Dr. Nitz of Parsons College. It was banded and then liberated. It was reported to have returned to the feeding-boards which it frequented before it was trapped.—J. WILBUR DOLE, Fairfield, Iowa.

Mallards Wintering at Conesville.—Mallards stayed at the marsh near Conesville, Iowa, all winter. They stayed around open water near springs and fed in the corn fields. We recorded at least two Mallards every week-end all winter. No other ducks were known to winter on the marsh. On February 19, 1939, following a few days of rather warm weather, we saw a flock of six Pintails. Between that date and March 11, we saw only Mallards, but about March 11 the Pintails arrived in thousands and were seen in huge flocks, feeding in corn and soy bean fields.—MARY E. ROBERTS, West Liberty, and JACK W. MUSGROVE, Des Moines, Iowa.

Whistling Swans at Conesville.—On April 23, 1939, we saw a flock of seven Whistling Swans on the Marsh at Conesville, Iowa. The birds are said to have arrived on April 22, and were last seen on April 25. They were very tame and could be approached to within a few hundred feet without becoming alarmed.—MARY E. ROBERTS, West Liberty, VELMA ROBERTS, Iowa City, and JACK W. MUSGROVE, Des Moines, Iowa.

Birds at a Roadside Pond.—On our way home from the Spirit Lake convention on May 14, 1939, we (Mr. and Mrs. E. J. Petranek, Mrs. C. C. Flodin, Dr. Warren Keck and I) made what we consider some unusual observations of shore birds. At a roadside pond, about one mile west of Lakota, in Kossuth County, we saw about 100 individuals birds of 19 species. Included in these were 5 Western Willets, 12 Hudsonian Godwits, 8 Marbled Godwits, 7 Dowitchers, 4 Wilson's Phalaropes, besides 25 to 30 Black Terns, Green-winged Teal, Blue-winged Teal, Shoveler and Pintail Ducks, Pectoral, Least and Semipalmated Sandpipers, Greater and Lesser Yellow-legs, Killdeer, Semipalmated Plover, Red-winged Blackbird and Meadowlark.—LILLIAN SERBOUSEK, Cedar Rapids, Iowa.

Bewick's Wren at Fairfield in March.—At five o'clock on the morning of March 15, 1939, Clay Harwood, a rural mail carrier, heard a scratching and fluttering at his door, and through the glass panel he saw a small bird that was apparently seeking admission. He opened the door and the bird flew into the house at once. It seemed to enjoy getting out of the biting, cold northwest wind and into warm quarters. It is said that the early bird gets the worm, but this bird was too early for worms to be thawed out on such a morning. It was probably attracted to the door by the light shining through the panel, but why was it astir so early? As neither Mr. Harwood nor the members of his family knew what kind of bird it was, the writer was called in to identify it. It was a Bewick's Wren, a rare bird in this locality but one that has been observed intermittently for the past 30 years. The bird was taken to Parsons College where it was banded by Professors Chas. Carter and Grover C. Hawk, then set free.—J. WILBUR DOLE, Fairfield, Iowa.

Golden-winged and Kentucky Warblers in Allamakee County.—On May 11, 1939, I saw a Golden-winged Warbler in a partly-submerged wooded area near the mouth of the Yellow River, in Allamakee County, Iowa. The bird was bathing in a shallow pool and was seen at close range in sunlight, though it took its departure as soon as discovered. A little later in the morning of the same day, a Kentucky Warbler was observed by Oscar P. Allert, Rev. M. C. Melcher and me, about a quarter-mile south of the village of Waukon Junction. We were following the railway embankment and watching various birds to be seen in the heavy river timber lying on either side. The very sharp, distinctive song of the Kentucky was heard in brush just in front of us, after which the bird ascended the bluff and sang intermittently from trees on the bluffside. I made my way up the side of the bluff until I was on a level with the singing Kentucky and had a good view of it through binoculars. In a few moments it dropped down far enough so that my two companions had opportunity to study it to their satisfaction. This territory embraces some of the best warbler country in the state. It was an ideal morning for bird work and the woods were alive with warblers and other spring migrants. We obtained a good list of warblers—including three Prothonotary Warblers at the mouth of the Yellow River.—FRED J. PIERCE.

European Widgeon in the Spirit Lake Region.—On May 13, 1939, Jack Musgrove observed a European Widgeon on a slough north of Big Spirit Lake, just over the state line in Minnesota. Later, on the same day, we and a group of eight other people saw this bird again. It was studied with both field glasses and telescope. It was in a mixed flock of Pintails, Redheads, Gadwalls and Baldpates. The bird had a distinctly red-brown head and gray back, in contrast to the Baldpate, and had a cream-colored forehead-patch. When it flew, it showed light shoulder-patches.—MARY E. ROBERTS, West Liberty, and JACK W. MUSGROVE, Des Moines, Iowa.

Paved Roads Make Better Living for Crows.—The food of Crows may be unusually varied, as necessity demands. The Crow makes the most of opportunities and is able to get along even under the most adverse conditions. I have noticed a concentration of Crows along paved highways in eastern Iowa during the winter months. Birds and animals killed on the highway, always a food source for the Crow, are much more enticing in winter when other food is hard to find. Crows were quick to recognize the benefits of the paved road as a food provider, and as years go by and the speed of motor vehicles is increased, the road becomes an important source of revenue for this bird.

Many rabbits are killed by automobiles at night. Early in the morning small groups of Crows forage along the paving and find these bodies. They are disposed of promptly—eaten on the spot, for the Crow does not carry away anything as large as a rabbit. The degree of accuracy to which a Crow can judge the speed of an approaching auto is remarkable. He flies up when the auto is near, but in plenty of time, and lights on a fence post. The moment the auto has passed he drops to the road and to his meal. Only on very rare occasions is a Crow struck by an auto.* Rabbits killed during daytime do not lie long before they are discovered by Crows. Freshly killed rabbits must be equally attractive to winter resident hawks, but I have never seen one take a rabbit from the paving. Rabbits and occasional squirrels and cats are the chief highway victims in winter. In other seasons the toll includes a wide variety of birds and mammals. Much poultry is killed on the highway in summer, but Crows will not take this food unless it is a safe distance from farm buildings.

During our unusually severe winter in January and February, 1936, on many nights the temperature would drop to 20-25 degrees below zero, while a high northwest wind would send the snow swirling in all directions. Arctic blasts such as these caused me to wonder where neighbor Crow was roosting, and how, indeed, he could survive the long nights and bitter cold. Morning would find him bright and active, flying about the fields or down the course of the paving in search of his breakfast, giving voice to his thoughts in familiar Crow language. Nothing daunts this hardy bird, and he lives beside us year after year, whether we like him or not.—FRED J. PIERCE.

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In a very worthwhile paper on "Wildlife Mortality on Iowa Highways" in the November, 1938, issue of the *American Midland Naturalist* (pp. 527-539), Thos. J. Scott tabulates birds found dead while he traveled 2,944 miles in 43 Iowa counties during 1936-1937. Thirty species of birds (819 individuals) were found, but there is not one Crow on the list!

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—F. J. P.

RECENT BIRD BOOKS

THE WATCHER AT THE NEST, by Margaret Morse Nice (Macmillan Co., New York, 1939; cloth, pp. i-viii + 1-159, 21 drawings by Roger T. Peterson; price, \$2).

It seems to me it would be more or less difficult for one who has treated a subject in a scientific manner to bring the popular approach to the same subject. Mrs. Nice has accomplished this most satisfactorily, and the intimacies of the Song Sparrow's life and nesting are revealed to the reader's eyes as if he were standing beside the author, seeing them for himself. The birds become persons in whom the reader becomes intensely absorbed as he follows their courtship, nesting and the rearing of the young to maturity. Among the interesting things prominent in the book are the establishing of a definite territory or range for each pair of birds, the use of colored bands for identifying individuals in the field, and the succession of generations of Song Sparrows in a given area. While the major portion of the book deals with the life of the Song Sparrow, the chapters treating of Bell's Vireo, Ovenbird, Magnolia Warbler, Bob-white and Prairie Chicken are no less interesting.—Chas. J. Spiker.

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A FIELD GUIDE TO THE BIRDS, by Roger Tory Peterson (Houghton Mifflin Co., Boston, revised edition, 1939; cloth, pp. i-xxii + 1-180, 4 colored & 36 half-tone pls., 24 figs.; price, \$2.75).

Those of us who were beginning bird work twenty-odd years ago invariably carried a pair of Reed's 'Bird Guides' in our pocket and studied their pages carefully. These guides still have a wide use, but Peterson's 'Field Guide', published in 1934, has supplanted Reed's to a great extent. Peterson's unique presentation had never before been found in a pocket guide. The drawings were arranged on a new plan, with the birds grouped so that a comparison of prominent markings in different species provided a ready clue for field identification. The response from bird students was immediate, and the book enjoyed a wide sale. It is said that 5,000 copies have been sold each year since it was published—a "best seller" among bird books.

A revised and enlarged edition of the 'Field Guide' was published in March. It was found that the first edition could be improved and made more useful in a number of ways. The type was entirely reset; there is now more text to the page and 13 more pages than in the former edition. Besides a number of line drawings, four new plates have been added. Cross-references between plates and text, new notes on identifying various species, descriptions of songs, and listing of ranges, are some of the features of this edition. Sizes of birds in inches give the student a basis for comparison not found on the plates, and with the inclusion of ranges he can tell whether to expect a certain bird in his locality. Changes in typography are also beneficial. Species names and sub-heads in bold face type make them much easier to pick out as the eye runs down the page. Subspecies are properly subordinated and are more easily separated from the species than in the first edition. The text of necessity refers principally to identification. To treat all birds found east of the Rockies in a pocket-size volume, requires clear, concise description with critical judgment as to what aids the field student will find most useful. In this the author has done excellent work. The book in its revised form will give maximum service to the rank and file of bird students.—F. J. P.

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'Food of Game Ducks in the United States and Canada', by A. C. Martin and F. M. Uhler, was published in March and is a very useful book of 157 pages and 153 plates, one colored (Tech. Bull. 634, U. S. Dept. of Agr., price 40c). 'Food Habits of North American Diving Ducks', by Clarence Cottam, was published in April. It contains 140

pages and 10 plates. Four of the plates are by Allan Brooks and show the diving ducks in full colors (Tech. Bull. 643, U. S. Dept. of Agr., price 30c). These publications may be ordered from the Supt. of Documents, Washington, D. C.

Several new bird journals have made their appearance within recent months. 'The Passenger Pigeon' is the mimeographed bulletin of the Wisconsin Society of Ornithology. At this writing four numbers have been issued in 1939. (Subscription, \$1 a year, 20 N. Carroll St., Madison, Wis.) 'Field Ornithology' is a printed monthly for amateur bird students. Its scope includes many states and it is a neat little production. (Subscription, 50c a year, Mt. Lookout, W. Va.)

The current issue of 'The Condor' (May-June) contains an excellent likeness of Dr. T. C. Stephens, one of the founders of our organization who is well known to all of us. There is an accompanying note of appreciation for the Doctor's work as editor of the 'Wilson Bulletin' from 1925 to 1938, inclusive. During the career of this magazine, which he so successfully directed for 14 years, we have seen the 'Wilson Bulletin' rise to a place among the leading ornithological journals. The termination of his services as editor is a distinct loss to the Wilson Club, but we hope the magazine will continue to serve the ornithology of the Middle West as well as it has in the past.

As this issue of 'Iowa Bird Life' was nearing completion we learned of the death of Dr. Winifred Gilbert, at Cedar Falls, June 17, 1939. Dr. Gilbert attended many of our conventions and was a vice-president of the Union. Our next issue will contain a biographical sketch.

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